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BROADCAST-TELEVISION DEPARTMENT
ELECTRONICS AND COMMUNICATIONS DIVISION

BROADCAST & TELEVISION ENGINEERING
COMMUNICATION ENGINEERING
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1812 K STREET, N.W.
WASHINGTON, D. C. 20006
(202) 296-6400

Mr. Robert J. McCartney
Secretary
The University of Massachusetts
Amherst, Massachusetts

Dear Mr. McCartney:

Our review of the non-commercial FM frequency allocations in the Amherst area reveals that WMUA, Channel 216 (91.1 MHz), could increase its power and/or height to the equivalent of about 20 Kw ERP at 200 feet above average terrain. Before such a change is seriously contemplated, the impact should be clearly understood.

WMUA is a Class D station having a transmitter power of 10 watts or less. As a Class D station, it enjoys several exceptions from the FCC Rules. It need not meet the regular requirements for frequency and modulation monitors. The station does not have to obtain outside measurement of its frequency at regular intervals. Performance requirements (Para. 73.317 FCC Rules) are also waived for the Class D stations. The Rules permit a second-class radiotelephone operator to perform routine maintanance and service. Transmitter logging requirements are minimal, and numerous other more subtle advantages are permitted the 10 watt stations.

A change to higher power by WMUA would eliminate the relaxed rules that now apply. Monitoring would be much more stringent. Maintenance would have to be consistent and competent. Operating and maintenance logs must be accurate and complete. Entries have to be made in the operating log every 30 minutes and each day in the maintenance log.

Perhaps the greatest impact of raising WMUA's power above 10 watts is with the general public. Broadcasting carries a heavy public service responsibility. Any attempt to reach beyond the bounds of the campus will require a showing of adequate public awareness and responsibility to the listeners. A program format of dormitory trivia has had to change at many Class D stations when they increased power. To achieve this change in format, strong supervision by a faculty member sometimes has been required.

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Recognizing the growth of the University of Massachusetts and the problems that have arisen for campus coverage by WMUA, we suggest a three-step program for improved coverage. First, be sure the transmitter and antenna system are operating properly. Because no monitoring and only minimal performance is required, it is possible the antenna, transmission line, or transmitter may be substantially below expected performance. An ERP of 10 watts should provide service two miles distant, even in high-rise dormitories.

If the technical operation of the station is in order, we would suggest moving it to a higher location, but retaining the 10 watt transmitter power. A high building central on the campus may be possible. A brief inspection would be needed for a specific site recommendation.

Upon a determination that the University should have a full-fledged community FM station, the third step of increased power could be undertaken. This step, however, may again require relocation of the station to avoid excessive signal levels in the immediate around the transmitter. Radiated powers of 1 Kw and up can cause severe FM and TV interference to homes and businesses within 1/2 mile. Thus, higher power will likely require funding above just the transmitter, monitoring equipment and antenna system. A tower, building, remote control equipment, telephone lines, and AC power all will add to the cost of the station. The frequency can have substantially higher power (and coverage) in the Amherst area, but only with proper regard to the costs and community impact such changes would create.

If we can be of further help, please call us.

Sincerely yours,

RE Peterson

Roger E. Peterson